

CLAIMS

Please amend claims 1 – 17 as follows:

1. [currently amended] Abrasive particles of composition selected from the group consisting of conventional abrasive particles that comprises in particular fused or sintered corundums, zirconium corundums, silicon carbides and boron carbide, other abrasives and mixtures thereof

with the abrasive particles being equipped with having a sheathing consisting of comprising an aqueous binding agent and a complex fine grained oxide compound, characterized by the fact that wherein the complex fine grained oxide compound is of the composition $A_xB_yO_z$ and that A_x and B_y each involve one or several elements from a group of elements A or, respectively, from a second group of elements B and O, involves where A and B are different elements and the oxygen that is being present in the stoichiometric ratio to A_x and B_y , with x and y being natural numbers >0 and z corresponding to a product of the sum of (x+y) and multiplied by a factor between 1.5 and 2.5,

the sheath coatings of the particles affording enhanced surface area to the underlying substrate particles and being thermodynamically stable and highly adherent, thus effecting enhanced abrasion performance of the particles.

2. [currently amended] Abrasive particles in accordance with Claim 1 characterized by the fact that wherein the binder comprises a silicate binder is being utilized.

3. [currently amended] Abrasive particles in accordance with Claim 2, wherein the characterized by the fact that colloidal silicic acid is used as silicate binder comprises colloidal silicic acid.

4. [currently amended] Abrasive particles in accordance with one or several of Claim[s] 1 through 3, characterized by the fact that the group of wherein element[s] A concerns the group of is a metal[s] as characterized in the periodic system of elements.

5. [currently amended] Abrasive particles in accordance with Claim 4, wherein characterized by the fact that the complex fine grained oxide compound of the general composition $A_xB_yO_z$ contains at least one element from the group of metals in the periodic system of elements.

6. [currently amended] Abrasive particles in accordance with Claim[s 4 or] 5, wherein characterized by the fact that the elements from the group of metals concern are selected from the group consisting of titanium, zirconium, iron, cobalt and/or nickel and combinations .

7. [currently amended] Abrasive particles in accordance with ~~one or several of Claim[s]~~
~~1 through 3, characterized by the fact that the group of wherein element[s] B concerns is selected~~
~~from the group consisting of amphoteric elements in the periodic system of elements.~~

8. [currently amended] Abrasive particles in accordance with Claim [7] ~~1 wherein~~
~~characterized by the fact that the complex fine grained oxide compound A_xB_yO_z contains at least one~~
~~element selected from the group consisting of amphoteric elements in the periodic system of~~
~~elements.~~

9. [currently amended] Abrasive particles in accordance with Claim 7 or 8, ~~characterized~~
~~by the fact that wherein the elements are selected from the group consisting of amphoteric elements~~
~~concern vanadium, chromium, manganese, zinc, tin and/or antimony and combinations.~~

10. [currently amended] Abrasive particles in accordance with one or several of Claim[s]
~~1 through 9, characterized by the fact that wherein the sheathing contains 0.05 – 5.0 weight % of a~~
complex fine grained oxide compound relative to the mass of the untreated particles.

11. [currently amended] Abrasive particles in accordance with one or several of Claim[s 1
through] 10, ~~characterized by the fact that wherein the sheathing preferably contains 0.1 – 2.0 weight~~
% of a complex fine grained oxide compound relative to the mass of the untreated particles.

12. [currently amended] Abrasive particles in accordance with one or several of Claim[s 1
through 11] ~~10 wherein, characterized by the fact that the sheathing contains a binding agent portion~~
of 0.05 – 2.0 weight % relative to the mass of the untreated particles.

13. [currently amended] Abrasive particles in accordance with ~~one or several of Claim[s 1~~
~~through] 12, wherein characterized by the fact that the binding agent portion preferably amounts to~~
0.1 – 1.0 weight % relative to the mass of the untreated particles.

14. [currently amended] Method for the treatment of abrasive particles ~~comprising in~~
~~accordance with one or several of the aforementioned claims, characterized by the fact that the~~
~~abrasive particles~~

i. ~~are wetted wetting~~ in an initial step in a mixer with a liquid silicate binding agent,

ii. ~~admixing~~ the wetted abrasive particles ~~are admixed~~ in a second step with a complex fine
grained oxide compound of the general formula A_xB_yO_z, ~~where Ax and By etc. from claim 1~~
~~the abrasive particles and complex fine grained oxide compound being and mixed until the~~
~~complex fine grained oxide compound is substantially evenly distributed over the surface of~~
~~the abrasive particles, to form sheaths thereon and~~

iii. finally, in a third step, the thus sheathed abrasive particles ~~are being~~ subjected to heat treatment in order to obtain a better ~~to enhance~~ adhesion of the sheathing.

15. [currently amended] Method in accordance with Claim 14, ~~wherein characterized by the fact that~~ the mixing periods in Steps i) and ii) each amount to 0.5 and 5 minutes.

16. [currently amended] Method in accordance with Claim[s] 14 or 15, ~~characterized by the fact that~~ wherein the heat treatment is carried out at temperatures between 100 and 900° C.

17. [currently amended] Synthetic resin-bound abrasive[s], ~~such as, for example, abrasive belts, abrasive papers and abrasive discs, products~~ made with abrasive particles in accordance with one or several of Claim[s] 1 through 13.